

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
15 September 2005 (15.09.2005)

PCT

(10) International Publication Number  
**WO 2005/084724 A1**

(51) International Patent Classification<sup>7</sup>: **A61L 15/60**

(21) International Application Number:  
**PCT/IL2005/000242**

(22) International Filing Date: 1 March 2005 (01.03.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
60/549,858 2 March 2004 (02.03.2004) US

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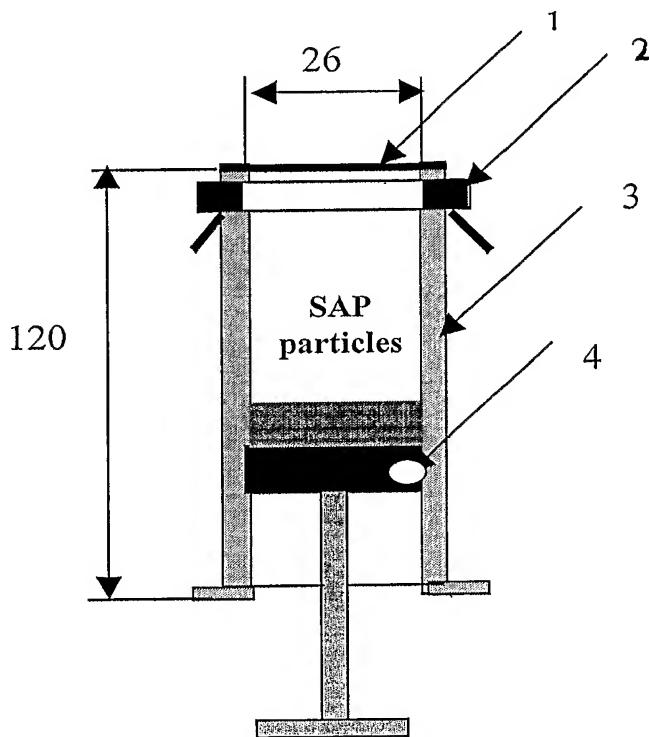
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(81) Designated States (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

*[Continued on next page]*

(54) Title: BIOCOMPATIBLE, BIODEGRADABLE, WATER-ABSORBENT HYBRID MATERIAL



(57) Abstract: A biocompatible, biodegradable, macromolecular water-absorbent hybrid material (WAHM), having a three-dimensional configuration with intermolecular covalent bonds and containing free functional groups, said polymer being formed by polymer-polymer intercoupling reaction between a natural water-soluble polymer A or its derivatives having a molecular weight between 20,000 and 300,000Da , and a synthetic polymer B in an adequate ratio wherein the natural polymer A is selected from amphoteric reactants, partially denatured or chemically modified natural polymer, that dissociates in water to form both anions and cations, and which can undergo polymer-polymer intercoupling reactions, and wherein synthetic polymer B is a linear or branched reactive synthetic copolymer having a molecular weight of 50,000 - 500,000Da derived from a vinyl monomer and an ethylenically unsaturated monomer, having a backbone with polymeric subunits covalently bonded to the polymer backbone, the subunits comprising ones with non-reactive and others with reactive chemical functional groups.



**Published:**

- *with international search report*
- *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

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